SEMI-SYNTHETIC SAPONIN ANALOGS WITH CARRIER AND IMMUNE STIMULATORY ACTIVITIES FOR DNA AND RNA VACCINES

ABSTRACT OF THE DISCLOSURE

The present invention discloses novel saponin derivatives for use with nucleic acids that induce an immune response when administered to animals and humans. The novel saponin derivatives disclosed comprise (a) a saponin aglycone core, wherein the aglycone core is covalently linked to one or more oligosaccharide chains; (b) a positively charged cationic chain, and optionally (c) a naturally occurring or synthetic lipophilic chain. Pharmaceutical and veterinary compositions comprising one or more of the novel saponin derivatives and saponin derivative/polynucleotide complexes are also disclosed. Disclosed as well are methods of using the novel saponin derivatives to deliver a polynucleotide molecule to cells of an animal, to stimulate or generate an immune response in an animal, and to generate a detectable immune response in an animal.